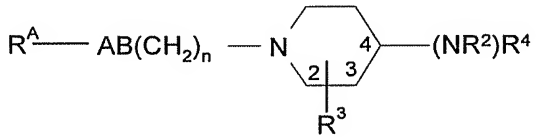
Amendments to the claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-16 (Cancelled).

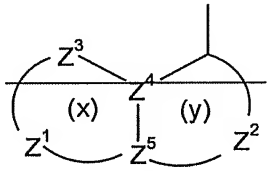
17. (Currently amended) A compound of formula (I) or a pharmaceutically acceptable derivative thereof:



(I)

wherein:

R^A is an optionally substituted bicyclic ~~carbocyclic or~~ heterocyclic ring system selected from quinolin-4-yl, isoquinolin-5-yl, quinolin-8-yl, thieno[3,2-b]pyridin-7-yl, 2,3-dihydro-[1,4]dioxino[2,3-b]pyridin-8-yl, quinoxalin-5-yl, isoquinolin-8-yl, [1,6]-naphthyridin-4-yl, 1,2,3,4-tetrahydroquinoxalin-5-yl or 1,2-dihydroisoquinoline-8-yl ~~of structure:~~



~~containing 0-3 heteroatoms in each ring in which:~~

~~at least one of rings (x) and (y) is aromatic;~~

~~one of Z^4 and Z^5 is C or N and the other is C;~~

~~Z^3 is N, NR^{13}, O, $S(O)_x$, CO, CR^1 or CR^1R^{1a};~~

~~Z^1 and Z^2 are independantly a 2 or 3 atom linker group each atom of which is independently selected from N, NR^{13}, O, $S(O)_x$, CO, CR^1 and CR^1R^{1a};~~
~~such that~~ wherein each ring is independently C-substituted with 0-3 groups R^1 and/or R^{1a};

~~one of Z^1, Z^2, Z^3, Z^4 and Z^5 is N, one is CR^{1a} and the remainder are CH , or one of Z^1, Z^2, Z^3, Z^4 and Z^5 is CR^{1a} and the remainder are CH;~~

R^1 and R^{1a} are independently hydrogen; hydroxy; (C_{1-6})alkoxy optionally substituted by (C_{1-6})alkoxy, amino, piperidyl, guanidino or amidino any of which is optionally N-substituted by one or two (C_{1-6})alkyl, acyl or (C_{1-6})alkylsulphonyl

groups, $CONH_2$, hydroxy, (C_{1-6})alkylthio, heterocyclylthio, heterocyclyloxy, arylthio, aryloxy, acylthio, acyloxy or (C_{1-6})alkylsulphonyloxy; (C_{1-6})alkoxy-substituted(C_{1-6})alkyl; hydroxy (C_{1-6})alkyl; halogen; (C_{1-6})alkyl; (C_{1-6})alkylthio; trifluoromethyl; trifluoromethoxy; cyano; carboxy; nitro; azido; acyl; acyloxy; acylthio; (C_{1-6})alkylsulphonyl; (C_{1-6})alkylsulphoxide; arylsulphonyl; arylsulphoxide or an amino, piperidyl, guanidino or amidino group optionally N-substituted by one or two (C_{1-6})alkyl, acyl or (C_{1-6})alkylsulphonyl groups, or when Z^3 and the adjacent atom are CR^1 and CR^{1a}, R^1 and R^{1a} may together represent (C_{1-2})alkylenedioxy; provided that R^1 and R^{1a}, on the same carbon atom are not both optionally substituted hydroxy or amino;

provided that
(i) when R^A is optionally substituted quinolin-4-yl:

it is unsubstituted in the 6-position; or

it is substituted by at least one hydroxy (C_{1-6})alkyl, cyano or carboxy group at the 2-, 5-, 6-, 7- or 8-position; ~~or~~

~~it is substituted by at least one trifluoromethoxy group; or~~

~~R^1 and R^{1a} together represent (C_{1-2})alkylenedioxy;~~

~~(ii) when R^A is optionally substituted quinazolin-4-yl, cinnolin-4-yl, 1,5-naphthyridin-4-yl, 1,7-naphthyridin-4-yl or 1,8-naphthyridin-4-yl:~~

~~it is substituted by at least one hydroxy (C_{1-6})alkyl, cyano or carboxy group at the 2-, 5-, 6-, 7- or 8-position as available; or~~

~~it is substituted by at least one trifluoromethoxy group; or~~

~~R^1 and R^{1a} together represent (C_{1-2})alkylenedioxy;~~

R^2 is hydrogen, or (C_{1-4})alkyl or (C_{2-4})alkenyl optionally substituted with 1 to 3 groups selected from:
amino optionally substituted by one or two (C_{1-4})alkyl groups; carboxy; (C_{1-4})alkoxycarbonyl; (C_{1-4})alkylcarbonyl; (C_{2-4})alkenyloxycarbonyl; (C_{2-4})alkenylcarbonyl; aminocarbonyl wherein the amino group is optionally substituted by hydroxy, (C_{1-4})alkyl, hydroxy(C_{1-4})alkyl, aminocarbonyl(C_{1-4})alkyl, (C_{2-4})alkenyl, (C_{1-4})alkylsulphonyl, trifluoromethylsulphonyl, (C_{2-4})alkenylsulphonyl, (C_{1-4})alkoxycarbonyl, (C_{1-4})alkylcarbonyl, (C_{2-4})alkenyloxycarbonyl or (C_{2-4})alkenylcarbonyl; cyano; tetrazolyl; 2-oxo-oxazolidinyl optionally substituted by R^{10}; 3-hydroxy-3-cyclobutene-1,2-dione-4-yl; 2,4-thiazolidinedione-5-yl; tetrazol-5-ylaminocarbonyl; 1,2,4-triazol-5-yl optionally substituted by R^{10}; 5-oxo-1,2,4-oxadiazol-3-yl; halogen; (C_{1-4})alkylthio; trifluoromethyl; hydroxy optionally substituted by (C_{1-4})alkyl, (C_{2-4})alkenyl, (C_{1-4})alkoxycarbonyl, (C_{1-4})alkylcarbonyl,

(C_{2-4})alkenyloxycarbonyl, (C_{2-4})alkenylcarbonyl; oxo; (C_{1-4})alkylsulphonyl; (C_{2-4})alkenylsulphonyl; or (C_{1-4})aminosulphonyl wherein the amino group is optionally substituted by (C_{1-4})alkyl or (C_{2-4})alkenyl;

R^3 is hydrogen; or
R^3 is in the 2-, 3- or 4-position and is:
trifluoromethyl; carboxy; (C_{1-6})alkoxycarbonyl; (C_{2-6})alkenyloxycarbonyl; aminocarbonyl wherein the amino group is optionally substituted by hydroxy, (C_{1-6})alkyl, hydroxy(C_{1-6})alkyl, aminocarbonyl(C_{1-6})alkyl, (C_{2-6})alkenyl, (C_{1-6})alkylsulphonyl, trifluoromethylsulphonyl, (C_{2-6})alkenylsulphonyl, (C_{1-6})alkoxycarbonyl, (C_{1-6})alkylcarbonyl, (C_{2-6})alkenyloxycarbonyl or (C_{2-6})alkenylcarbonyl and optionally further substituted by (C_{1-6})alkyl, hydroxy(C_{1-6})alkyl, aminocarbonyl(C_{1-6})alkyl or (C_{2-6})alkenyl; cyano; tetrazolyl; 2-oxo-oxazolidinyl optionally substituted by R^{10}; 3-hydroxy-3-cyclobutene-1,2-dione-4-yl; 2,4-thiazolidinedione-5-yl; tetrazol-5-ylaminocarbonyl; 1,2,4-triazol-5-yl optionally substituted by R^{10}; or 5-oxo-1,2,4-oxadiazol-3-yl; or
(C_{1-4})alkyl or ethenyl optionally substituted with any of the substituents listed above for R^3 and/or 0 to 2 groups R^{12} independently selected from:
halogen; (C_{1-6})alkylthio; trifluoromethyl; (C_{1-6})alkoxycarbonyl; (C_{1-6})alkylcarbonyl; (C_{2-6})alkenyloxycarbonyl; (C_{2-6})alkenylcarbonyl; hydroxy optionally substituted by (C_{1-6})alkyl, (C_{2-6})alkenyl, (C_{1-6})alkoxycarbonyl, (C_{1-6})alkylcarbonyl, (C_{2-6})alkenyloxycarbonyl, (C_{2-6})alkenylcarbonyl or aminocarbonyl wherein the amino group is optionally substituted by (C_{1-6})alkyl, (C_{2-6})alkenyl, (C_{1-6})alkylcarbonyl or (C_{2-6})alkenylcarbonyl; amino optionally mono- or disubstituted by (C_{1-6})alkoxycarbonyl, (C_{1-6})alkylcarbonyl, (C_{2-6})alkenyloxycarbonyl, (C_{2-6})alkenylcarbonyl, (C_{1-6})alkyl, (C_{2-6})alkenyl, (C_{1-6})alkylsulphonyl, (C_{2-6})alkenylsulphonyl or aminocarbonyl wherein the amino group is optionally substituted by (C_{1-6})alkyl or (C_{2-6})alkenyl; aminocarbonyl wherein the amino group is optionally substituted by (C_{1-6})alkyl, hydroxy(C_{1-6})alkyl, aminocarbonyl(C_{1-6})alkyl, (C_{2-6})alkenyl, (C_{1-6})alkoxycarbonyl, (C_{1-6})alkylcarbonyl, (C_{2-6})alkenyloxycarbonyl or (C_{2-6})alkenylcarbonyl and optionally further substituted by (C_{1-6})alkyl, hydroxy(C_{1-6})alkyl, aminocarbonyl(C_{1-6})alkyl or (C_{2-6})alkenyl; oxo; (C_{1-6})alkylsulphonyl; (C_{2-6})alkenylsulphonyl; or (C_{1-6})aminosulphonyl wherein the amino group is optionally substituted by (C_{1-6})alkyl or (C_{2-6})alkenyl; or

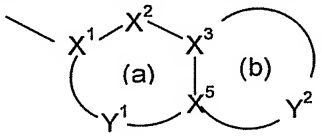
R^3 is in the 2-position and is oxo; or

R^3 is in the 3-position and is fluorine, amino optionally substituted by a group selected from hydroxy, (C_{1-6})alkylsulphonyl, trifluoromethylsulphonyl, (C_{2-6})alkenylsulphonyl, (C_{1-6})alkylcarbonyl, (C_{2-6})alkenylcarbonyl, (C_{1-6})alkoxycarbonyl, (C_{2-6})alkenyloxycarbonyl, (C_{1-6})alkyl and (C_{2-6})alkenyl, wherein a (C_{1-6})alkyl or (C_{2-6})alkenyl moiety may be optionally substituted with up to 2 groups R^{12}, or hydroxy optionally substituted as described above for R^{12} hydroxy; in addition when R^3 is disubstituted with a hydroxy or amino containing substituent and carboxy containing substituent these may together form a cyclic ester or amide linkage, respectively;

R^4 is a group -U-R^5 where

U is selected from CO, SO_2 and CH_2 and

R^5 is an optionally substituted bicyclic heterocyclic ring system (A):



(A)

wherein:

X^3 and X^5 are C;

ring (a) is optionally substituted pyrido in which X^1 is C, X^2 is N, and Y^1 is a 2 atom linker group each atom of which is independently selected from CR^{14}; and

ring (b) is non-aromatic, Y^2 is a 4 atom linker group wherein $S(O)_X$ is bonded to X^5, NR^{13} is bonded via N to X^3 and the other atoms are independently selected from $CR^{14}R^{15}$;

each of R^{14} and R^{15} is independently selected from: H; (C_{1-4})alkylthio; halo; carboxy(C_{1-4})alkyl; halo(C_{1-4})alkoxy; halo(C_{1-4})alkyl; (C_{1-4})alkyl; (C_{2-4})alkenyl; (C_{1-4})alkoxycarbonyl; formyl; (C_{1-4})alkylcarbonyl; (C_{2-4})alkenyloxycarbonyl; (C_{2-4})alkenylcarbonyl; (C_{1-4})alkylcarbonyloxy; (C_{1-4})alkoxycarbonyl(C_{1-4})alkyl; hydroxy; hydroxy(C_{1-4})alkyl; mercapto(C_{1-4})alkyl; (C_{1-4})alkoxy; nitro; cyano; carboxy; amino or aminocarbonyl optionally substituted as for corresponding substituents in R^3; (C_{1-4})alkylsulphonyl; (C_{2-4})alkenylsulphonyl; or aminosulphonyl wherein the amino group is optionally mono- or di-substituted by (C_{1-4})alkyl or (C_{2-4})alkenyl; aryl; aryl(C_{1-4})alkyl; aryl(C_{1-4})alkoxy or

R^{14} and R^{15} may together represent oxo;

each R^{13} is independently H; trifluoromethyl; (C_{1-4})alkyl optionally substituted by hydroxy, (C_{1-6})alkoxy, (C_{1-6})alkylthio, halo or trifluoromethyl; (C_{2-4})alkenyl; aryl; aryl (C_{1-4})alkyl; arylcarbonyl; heteroarylcarbonyl; (C_{1-4})alkoxycarbonyl; (C_{1-4})alkylcarbonyl; formyl; (C_{1-6})alkylsulphonyl; or

aminocarbonyl wherein the amino group is optionally substituted by (C_{1-4})alkoxycarbonyl, (C_{1-4})alkylcarbonyl, (C_{2-4})alkenyloxycarbonyl, (C_{2-4})alkenylcarbonyl, (C_{1-4})alkyl or (C_{2-4})alkenyl and optionally further substituted by (C_{1-4})alkyl or (C_{2-4})alkenyl;

each x is independently 0, 1 or 2;

n is 0 and AB is $NR^{11}CO$, $CO\text{-}CR^8R^9$, $CR^6R^7\text{-}CO$, $NHR^{11}SO_2$, $CR^6R^7\text{-}SO_2$ or $CR^6R^7\text{-}CR^8R^9$, provided that R^8 and R^9 are not optionally substituted hydroxy or amino and R^6 and R^8 do not represent a bond;
or n is 1 and AB is $NR^{11}CO$, $CO\text{-}CR^8R^9$, $CR^6R^7\text{-}CO$, $NR^{11}SO_2$, $CONR^{11}$, $CR^6R^7\text{-}CR^8R^9$, $O\text{-}CR^8R^9$ or $NR^{11}\text{-}CR^8R^9$;

provided that R^6 and R^7, and R^8 and R^9 are not both optionally substituted hydroxy or amino;
and wherein:
each of R^6, R^7 , R^8 and R^9 is independently selected from: H; (C_{1-6})alkoxy; (C_{1-6})alkylthio; halo; trifluoromethyl; azido; (C_{1-6})alkyl; (C_{2-6})alkenyl; (C_{1-6})alkoxycarbonyl; (C_{1-6})alkylcarbonyl; (C_{2-6})alkenyloxycarbonyl; (C_{2-6})alkenylcarbonyl; hydroxy, amino or aminocarbonyl optionally substituted as for corresponding substituents in R^3; (C_{1-6})alkylsulphonyl; (C_{2-6})alkenylsulphonyl; or (C_{1-6})aminosulphonyl wherein the amino group is optionally substituted by (C_{1-6})alkyl or (C_{2-6})alkenyl;
or R^6 and R^8 together represent a bond and R^7 and R^9 are as above defined;

R^{10} is selected from (C_{1-4})alkyl; (C_{2-4})alkenyl and aryl any of which may be optionally substituted by a group R^{12} as defined above; carboxy; aminocarbonyl wherein the amino group is optionally substituted by hydroxy, (C_{1-6})alkyl, (C_{2-6})alkenyl, (C_{1-6})alkylsulphonyl, trifluoromethylsulphonyl, (C_{2-6})alkenylsulphonyl, (C_{1-6})alkoxycarbonyl, (C_{1-6})alkylcarbonyl, (C_{2-6})alkenyloxycarbonyl or (C_{2-6})alkenylcarbonyl and optionally further substituted by (C_{1-6})alkyl or (C_{2-6})alkenyl; and

R^{11} is hydrogen; trifluoromethyl, (C_{1-6})alkyl; (C_{2-6})alkenyl; (C_{1-6})alkoxycarbonyl; (C_{1-6})alkylcarbonyl; or aminocarbonyl wherein the amino group is optionally substituted by (C_{1-6})alkoxycarbonyl, (C_{1-6})alkylcarbonyl, (C_{2-6})alkenyloxycarbonyl, (C_{2-6})alkenylcarbonyl, (C_{1-6})alkyl or (C_{2-6})alkenyl and optionally further substituted by (C_{1-6})alkyl or (C_{2-6})alkenyl;

or where one of R^3 and R^6, R^7, R^8 or R^9 contains a carboxy group and the other contains a hydroxy or amino group they may together form a cyclic ester or amide linkage.

18. (Previously presented) A compound according to claim 17 wherein R^A is optionally substituted isoquinolin-5-yl, quinolin-8-yl, thieno[3,2-b]pyridin-7-yl, 2,3-dihydro-[1,4]dioxino[2,3-b]pyridin-8-yl, quinoxalin-5-yl, isoquinolin-8-yl, [1,6]-naphthyridin-4-yl, 1,2,3,4-tetrahydroquinoxalin-5-yl or 1,2-dihydroisoquinoline-8-yl.

19. (Previously presented) A compound according to claim 17 wherein R^1 is H, methoxy, methyl, cyano or halogen and R^{1a} is H.

20. (Previously presented) A compound according to claim 17 wherein R^3 is hydrogen; optionally substituted hydroxy; optionally substituted amino; halogen; (C_{1-4})alkoxycarbonyl; $CONH_2$; 1-hydroxyalkyl; CH_2CO_2H; CH_2CONH_2; -$CONHCH_2CONH_2$; 1,2-dihydroxyalkyl; CH_2CN; 2-oxo-oxazolidin-5-yl; or 2-oxo-oxazolidin-5-yl(C_{1-4}alkyl).

21. (Previously presented) A compound according to claim 17 wherein n is 0 and A and B are both CH_2, A is CHOH and B is CH_2 or A is NH and B is CO.

22. (Previously presented) A compound according to claim 17 wherein –U- is –CH_2-.

23. (Previously presented) A compound according to claim 17 wherein Y^2 has a group S bonded to X^5 and a group NHCO bonded via N to to X^3.

24. (Previously presented) A compound according to claim 17 wherein R^5 is 3-oxo-3,4-dihydro-2*H*-pyrido[3,2-*b*][1,4]thiazin-6-yl.

25. (Currently amended) A compound ~~according to claim 17~~ selected from:
6-({(3R,4S)-3-Fluoro-1-[(R)-2-hydroxy-2-(2-methoxy-quinolin-8-yl)-ethyl]-piperidin-4-ylamino}-methyl)-4H-pyrido[3,2-b][1,4]thiazin-3-one;
6-({(3S,4R)-3-Fluoro-1-[(R)-2-hydroxy-2-(2-methoxy-quinolin-8-yl)-ethyl]-piperidin-4-ylamino}-methyl)-4H-pyrido[3,2-b][1,4]thiazin-3-one;
6-({(3R,4R)-3-Hydroxy-1-[(R)-2-hydroxy-2-(2-methoxy-quinolin-8-yl)-ethyl]-piperidin-4-ylamino}-methyl)-4H-pyrido[3,2-b][1,4]thiazin-3-one;

6-({(3S,4S)-3-Hydroxy-1-[(R)-2-hydroxy-2-(2-methoxy-quinolin-8-yl)-ethyl]-piperidin-4-ylamino}-methyl)-4H-pyrido[3,2-b][1,4]thiazin-3-one;
~~6-({(3R,4S)-1-[2-(2,3-Dihydro-[1,4]dioxino[2,3-*f*]quinolin-10-yl)-ethyl]-3-fluoro-piperidin-4-ylamino}-methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one;~~
6-{[(1-{(2R/S)-2-hydroxy-2-[3-(methyloxy)-5-quinoxalinyl]ethyl}-4-piperidinyl)amino]methyl}-2*H*-pyrido[3,2-*b*][1,4]thiazin-3(4*H*)-one;
6-[({1-[2-(4-quinolinyl)ethyl]-4-piperidinyl}amino)methyl]-2*H*-pyrido[3,2-*b*][1,4]thiazin-3(4*H*)-one;
4-[2-(3-hydroxy-4-{[(3-oxo-3,4-dihydro-2*H*-pyrido[3,2-*b*][1,4]thiazin-6-yl)methyl]amino}-1-piperidinyl)ethyl]-6-quinolinecarbonitrile (isomer E2); and
4-[2-(3-hydroxy-4-{[(3-oxo-3,4-dihydro-2*H*-pyrido[3,2-*b*][1,4]thiazin-6-yl)methyl]amino}-1-piperidinyl)ethyl]-6-quinolinecarbonitrile(E1 isomer);
or a pharmaceutically acceptable derivative thereof.

26. (Currently amended) A method of treatment of bacterial infections in mammals~~, particularly in man~~, which method comprises the administration to a mammal in need of such treatment an effective amount of a compound according to claim 17.

27. (Previously presented) A pharmaceutical composition comprising a compound according to claim 17, and a pharmaceutically acceptable carrier.

28. Canceled.

29. (New) A compound according to claim 17 wherein R^A is unsubstituted quinolin-4-yl, or quinolin-4-yl substituted by a cyano in the 6-position.

30. (New) A compound according to claim 17 wherein R^A is optionally substituted quinolin-8-yl.

31. (New) A compound according to claim 17 wherein R^A is optionally substituted quinoxalin-5-yl.

32. (New) A method of treatment of bacterial infections in mammals~~, particularly in man~~, which method comprises the administration to a mammal in need of such treatment an effective amount of a compound according to claim 25.

33. (New) A pharmaceutical composition comprising a compound according to claim 25, and a pharmaceutically acceptable carrier.